



6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2018-0761; FRL-9991-30-Region 9]

Air Plan Approval; Arizona; Regional Haze Progress Report

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve Arizona's Regional Haze Progress Report ("Progress Report" or "Report"), submitted by the State of Arizona on November 12, 2015, as a revision to its state implementation plan (SIP). Arizona submitted its Progress Report and a negative declaration stating that further revision of the existing regional haze implementation plan is not needed at this time. The Progress Report addresses the federal Regional Haze Rule requirements under the Clean Air Act (CAA) to submit a report describing progress in achieving reasonable progress goals (RPGs) established for regional haze and a determination of the adequacy of the state's existing implementation plan addressing regional haze. Arizona's Progress Report notes that Arizona has implemented the measures in the regional haze implementation plan due to be in place by the date of the Progress Report and that visibility in Class I areas affected by emissions from Arizona is improving. The EPA is proposing approval of Arizona's determination that the State's regional haze implementation plan is adequate to meet RPGs in Class I areas affected by emissions from Arizona for the first implementation period, which extended through 2018, and requires no substantive revision at this time.

DATES: Comments must be received on or before [**insert date 30 days after date of publication in the *FEDERAL REGISTER***].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2018-0761 at <https://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www2.epa.gov/dockets/commenting-epa-dockets>.

FOR FURTHER INFORMATION CONTACT: Panah Stauffer, EPA Region IX, (415) 972-3247, stauffer.panah@epa.gov.

SUPPLEMENTARY INFORMATION: Throughout this document whenever “we,” “us,” or “our” is used, it is intended to refer to the EPA.

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I. Background

A. Description of Regional Haze

Fine particles impair visibility by scattering and absorbing light, thereby reducing the clarity, color, and visible distance that one can see. Regional haze is visibility impairment produced by emissions of fine particles by numerous sources and activities located across a broad geographic area. These fine particles can also cause serious health effects and mortality in humans and contribute to environmental impacts, such as acid deposition and eutrophication of water bodies.

B. History of Regional Haze Rule

In section 169A(a)(1) of the CAA Amendments of 1977, Congress created a program to protect visibility in designated national parks and wilderness areas, establishing as a national goal the “prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.” In accordance with section 169A of the CAA and after consulting with the Department of the Interior, the EPA promulgated a list of 156 mandatory Class I federal areas where visibility is

identified as an important value.¹ In this notice, we refer to mandatory Class I federal areas on this list as “Class I areas.”

With the CAA Amendments of 1990, Congress added section 169B to address regional haze issues. The EPA promulgated the Regional Haze Rule (RHR) on July 1, 1999.² In the RHR, the EPA revised the existing visibility regulations to integrate provisions addressing regional haze impairment and to establish a comprehensive visibility protection program for Class I areas. As defined in the RHR, the RPGs must provide for an improvement in visibility for the most impaired days (“worst days”) over the period of the implementation plan and ensure no degradation in visibility for the least impaired days (“best days”) over the same period.³ The first regional haze implementation plan generally covers the period from 2000-2018 (also known as the first planning period).

Five years after submittal of the initial regional haze plan, states were required to submit progress reports that evaluate progress towards the RPGs for each Class I area within the state and in each Class I area outside the state that may be affected by emissions from within the state.⁴ States were also required to submit, at the same time as the progress report, a determination of the adequacy of the state’s existing regional haze plan.⁵

C. Arizona’s Regional Haze Plan

¹ The Class I areas are listed at 40 CFR part 81, subpart D. Areas designated as Class I areas consist of national parks exceeding 6,000 acres, wilderness areas and national memorial parks exceeding 5,000 acres, and all international parks that were in existence on August 7, 1977 (42 U.S.C. 7472(a)).

² 64 FR 35714 (July 1, 1999). The rule was subsequently revised on July 6, 2005 (70 FR 39103), October 13, 2006 (71 FR 60611), and January 10, 2017 (82 FR 3078).

³ 40 CFR 51.308(d)(1).

⁴ 40 CFR 51.308(g).

⁵ 40 CFR 51.308(h).

Arizona submitted its initial regional haze SIP under 40 CFR 51.308 to the EPA on February 28, 2011 (hereinafter “2011 Submittal”).⁶ The EPA actions in Table 1 followed the 2011 Submittal.

Table 1 – Arizona Regional Haze – Summary of EPA Actions under CAA Section 308

Date	EPA Action
December 5, 2012	“Phase 1” partial approval and partial disapproval of certain provisions of the 2011 Submittal and promulgation of partial federal implementation plan (FIP). ^a
July 30, 2013	“Phase 2” partial approval and partial disapproval of remaining portions of Arizona Regional Haze 2011 Submittal. ^b
September 3, 2014	“Phase 3” promulgation of FIP for remaining portions of Arizona Regional Haze program. ^c
April 10, 2015	Approval of SIP revision for the Arizona Electric Power Cooperative (AEPCO) Apache Generating Station. ^d
April 17, 2015	FIP revision replacing the control technology demonstration requirements for nitrogen oxides (NO _x) at Lhoist North America of Arizona, Inc. Nelson Lime Plant with revised recordkeeping and reporting requirements. ^e
April 13, 2016	FIP revision revising NO _x requirements for the Salt River Project Agricultural Improvement and Power District (SRP) Coronado Generating Station. ^f
November 21, 2016	FIP revision replacing the control technology demonstration requirements for NO _x at CalPortland Cement (CPC) Rillito Plant Kiln 4 and Phoenix Cement Company (PCC) Clarkdale Plant Kiln 4 with revised recordkeeping and reporting requirements. ^g
March 27, 2017	Approval of SIP revision to replace FIP for Arizona Public Service (APS) Cholla Generating Station. ^h
October 10, 2017	Approval of SIP revision to replace FIP for the SRP Coronado Generating Station. ⁱ

^a 77 FR 72511 (December 5, 2012).

⁶ On December 23, 2003, the Arizona Department of Environmental Quality (ADEQ) submitted a Regional Haze plan under 40 CFR 51.309 (“309 Plan”). Letter dated December 23, 2003, from Stephen A. Owens, Director, ADEQ, to Wayne Nastri, Regional Administrator, EPA, Region IX. On December 30, 2004, ADEQ submitted a revision to its 309 Plan, consisting of rules on emissions trading and smoke management, and a correction to the State’s regional haze statutes. Letter dated December 30, 2004, from Stephen A. Owens, Director, ADEQ, to Wayne Nastri, Regional Administrator, EPA. On December 24, 2008, ADEQ sent a letter resubmitting the 309 Plan revisions to the EPA. Letter dated December 24, 2008, from Stephen A. Owens, Director, ADEQ, to Wayne Nastri, Regional Administrator, EPA. On May 16, 2006 (71 FR 28270) and May 8, 2007 (72 FR 25973), the EPA approved the smoke management rules that were part of these submittals. On August 8, 2013 (78 FR 48326), the EPA disapproved the remainder of the State’s submittals under 40 CFR 309. Therefore, these prior submittals are not relevant for purposes of the Progress Report, unless otherwise noted.

^b 78 FR 461421 (July 30, 2013).

^c 79 FR 52419 (September 3, 2014).

^d 80 FR 19220 (April 10, 2015).

^e 80 FR 21176 (April 17, 2015).

^f 81 FR 21735 (April 13, 2016).

^g 81 FR 83144 (November 21, 2016).

^h 82 FR 15139 (March 27, 2017).

ⁱ 82 FR 46903 (October 10, 2017).

On November 12, 2015, the State of Arizona submitted its Progress Report to meet the requirements of 40 CFR 51.308(g) and (h).⁷ In accordance with these requirements, the Progress Report describes the status of implementation of measures included in the regional haze implementation plan, emissions reductions from these measures, and improvements in visibility conditions at the State's Class I areas. The Progress Report also includes a negative declaration stating that further revision of the existing implementation plan is not needed in accordance with 40 CFR 51.308(h)(1).

II. Context for Understanding Arizona's Progress Report

To facilitate a better understanding of Arizona's Progress Report as well as the EPA's evaluation of it, this section provides background on the regional haze program in Arizona.

A. Framework for Measuring Progress

The EPA has established a metric for determining visibility conditions at Class I areas referred to as the "deciview index," which is measured in deciviews, as defined in 40 CFR 51.301. A deciview expresses uniform changes in haziness in terms of common increments across the entire range of visibility conditions (i.e., pristine (low deciview) to extremely hazy (high deciview)). Deciviews are determined by using air quality data collected from the Interagency Monitoring of Protected Visual Environments (IMPROVE) network monitors to estimate light extinction, and then transforming the value of light extinction using a logarithmic

⁷ Letter dated November 12, 2015, from Eric C. Massey, Director, Air Quality Division, ADEQ, to Jared Blumenfeld, Regional Administrator, EPA Region IX.

function. Arizona has 12 Class I areas within its borders: the Chiricahua National Monument, Chiricahua Wilderness Area, Galiuro Wilderness Area, Grand Canyon National Park, Mazatzal Wilderness Area, Mount Baldy Wilderness Area, Petrified Forest National Park, Pine Mountain Wilderness, Saguaro National Park, Sierra Ancha Wilderness Area, Superstition Wilderness Area, and Sycamore Canyon Wilderness Area. For this Progress Report, monitoring data representing visibility conditions in Arizona's 12 Class I areas were based on the ten IMPROVE monitors identified in Table 2.

Table 2 – Arizona IMPROVE Monitoring Sites and Represented Class I Areas

Site Code	Class I Area
BALD1	Mount Baldy Wilderness
CHIR1	Chiricahua National Monument, Chiricahua Wilderness & Galiuro Wilderness
GRCA2	Grand Canyon National Park
IKBA1	Mazatzal Wilderness & Pine Mountain Wilderness
PEFO1	Petrified Forest National Park
SAGU1	Saguaro National Monument – East Unit
SAWE1	Saguaro National Monument – West Unit
SIAN1	Sierra Ancha Wilderness
SYCA2	Sycamore Canyon Wilderness
TONT1	Superstition Wilderness

Source: 2015 Arizona Regional Haze 5-Year Progress Report, Table 17, 25.

Under the RHR, a state's initial regional haze plan must establish two RPGs for each of its Class I areas: one for the 20 percent least impaired days and one for the 20 percent most impaired days. The RPGs must provide for an improvement in visibility on the 20 percent most impaired days and ensure no degradation in visibility on the 20 percent least impaired days, as compared to visibility conditions during the baseline period. In establishing the RPGs, a state must consider the uniform rate of visibility improvement from the baseline to natural conditions in 2064 and the emission reduction measures needed to achieve that uniform rate. The EPA's 2014 FIP set the RPGs for Arizona's 12 Class I areas based on modeling performed by the

Western Regional Air Partnership (WRAP), scaled according to projected emission reductions from the FIP's controls for best available retrofit technology (BART) and reasonable progress. Arizona used these RPGs in its Progress Report.⁸

In addition, the Progress Report addresses Arizona's potential contribution to visibility impairment at twelve Class 1 areas located in three other states: Colorado, Utah, and New Mexico.

B. Data Sources for Arizona's Progress Report

To demonstrate visibility progress, the Arizona Department of Environmental Quality (ADEQ) used recent visibility information available from the WRAP Technical Support System (TSS). It also used the technical data and analyses in the "Western Regional Air Partnership Regional Haze Rule Reasonable Progress Summary Report" ("WRAP Report"), dated June 28, 2013.⁹ The WRAP Report was prepared for WRAP "on behalf of the 15 western state members in the WRAP region, to provide the technical basis for the first of RHR individual progress reports."¹⁰ ADEQ's Progress Report presented data for each of its Class I areas comparing visibility conditions for the 20 percent most impaired and 20 percent least impaired days during the baseline period (2000-2004), the current period for the Progress Report (2009-2013), and years between those periods. ADEQ also relied on WRAP TSS data for its emissions inventory.

The emissions data for BART sources and non-BART electrical generating units (EGUs) came from information the facilities report to the EPA's Clean Air Markets Division (CAMD) database. Emissions data for non-electric generating unit (non-EGU) sources came from the 2008 and 2011 National Emissions Inventory as well as ADEQ's internal point source emission

⁸ The RPGs are shown in Table 10 of today's action.

⁹ 2015 Arizona Regional Haze 5-Year Progress Report, 2.

¹⁰ The WRAP Report is available at http://www.wrapair2.org/documents/Full%20Report/WRAP_RHRPR_Full_Report_without_Appendices.PDF.

database. ADEQ also calculated emissions averted from prescribed burning of nonagricultural fuels using WRAP-recommended emission reduction techniques.

III. The EPA's Review of Arizona's Progress Report

This section describes the contents of Arizona's Progress Report, the EPA's review of the report, the determination of adequacy required by 40 CFR 51.308(h), and the requirement for state and federal land manager coordination in 40 CFR 51.308(i).

A. Status of Implementation of All Measures Included in the Regional Haze Implementation Plan

In its Progress Report, Arizona provided descriptions and compliance dates for emissions limits on the seven BART sources established through the Arizona Regional Haze SIP¹¹ and the Arizona Regional Haze FIP.¹² The Progress Report also described controls and compliance dates for two reasonable progress sources that the EPA established in the Arizona Regional Haze FIP.¹³ The Progress Report addressed the status of these sources at the time of the Report's submittal in 2015. However, most of the compliance dates for these sources had not yet passed at the time of the Report's submittal, so information regarding compliance was not available. Following submittal of the Progress Report, the EPA has taken several actions to approve revisions to the Arizona Regional Haze SIP and to revise the Arizona Regional Haze FIP, as shown in Table 1 above. These revisions superseded some of the SIP requirements discussed in the Progress Report. The RHR requires a progress report to address the "implementation plan," defined in 40 CFR 51.301 as any SIP, FIP, or tribal implementation plan.¹⁴ Accordingly, in the

¹¹ We refer to the approved provisions of the Arizona Regional Haze Plan (including approved revisions) collectively as the "Arizona Regional Haze SIP."

¹² We refer to the various FIP requirements promulgated by the EPA collectively as the "Arizona Regional Haze FIP."

¹³ These sources were not subject to BART, but the EPA determined that they were required to implement controls under the reasonable progress requirements of the RHR.

¹⁴ No tribe in Arizona has a tribal implementation plan for regional haze.

following sections, we summarize the currently applicable requirements of the Arizona Regional Haze SIP and Arizona Regional Haze FIP, as described in the Progress Report and revised by subsequent SIP and FIP actions.

As described further below, beyond stationary source controls required in the SIP and FIP, ADEQ also included visibility progress made from the closure of certain stationary sources, existing federal and state regulations, and the State's Enhanced Smoke Management Program.¹⁵

1. Subject-to-BART Sources

Under the RHR, states are directed to conduct BART determinations for BART-eligible¹⁶ sources that may be anticipated to cause or contribute to any visibility impairment in a Class I area (known as "subject-to-BART" sources).¹⁷ States also have the flexibility to adopt alternatives that provide greater reasonable progress towards natural visibility conditions than BART for one or more subject-to-BART sources (commonly known as "better-than-BART" alternatives).¹⁸ The Arizona Regional Haze SIP and Arizona Regional Haze FIP identified seven subject-to-BART facilities (i.e., facilities that include one or more BART-eligible units and were determined to be subject to BART): AEPCO Apache Generating Station; APS Cholla Generating Station; SRP Coronado Generating Station; Freeport-McMoRan Miami, Inc. Miami Smelter; ASARCO, Inc., ("Asarco") Hayden Smelter; Tucson Electric Power (TEP) Sundt Generating Station; and the Nelson Lime Plant. The Arizona Regional Haze SIP and Arizona Regional Haze FIP establish BART or better-than-BART alternative controls for NO_x, particulate matter (PM), and sulfur dioxide (SO₂) for each of these sources.

¹⁵ 2015 Arizona Regional Haze 5-Year Progress Report, 13-18.

¹⁶ A BART-eligible source is an existing stationary source in any of 26 listed categories built between 1962 and 1977 with potential emissions of at least 250 tons per year. 40 CFR 51.301 and 40 CFR part 51 appendix Y, section II.

¹⁷ 40 CFR 51.308(e).

¹⁸ 40 CFR 51.308(e)(2).

a. Apache Generating Station

The Apache Generating Station (“Apache”) has three BART-eligible units: ST1, ST2, and ST3. Unit ST1 is a wall-fired boiler with a net unit output of 85 megawatts (MW) that burns pipeline-quality natural gas as its primary fuel and can operate alone or in combined-cycle mode with an adjacent Gas Turbine (GT1). Units ST2 and ST3 are both dry-bottom, Riley Stoker turbo-fired boilers, operating on sub-bituminous coal, each with a gross unit output of 204 MW.

On December 5, 2012, the EPA approved the State’s SO₂ and PM BART limits for Apache and established FIP NO_x emission limits for units ST2 and ST3 based on installation and operation of selective catalytic reduction (SCR). On April 10, 2015, the EPA approved a SIP revision for Apache (“Apache SIP Revision”) that included a better-than-BART alternative for Apache units ST2 and ST3 (“Apache BART Alternative”) and a revised NO_x emission limit for ST1 that applies when it operates in combined-cycle mode with the adjacent GT1.¹⁹ Under the Apache BART Alternative, ST2 was converted from a primarily coal-fired unit to a unit that combusts pipeline-quality natural gas, while ST3 remains as a coal-fired unit and has been retrofitted with selective non-catalytic reduction (SNCR). The emission limits associated with the Apache BART Alternative are summarized in Table 3. The compliance date for all limits was December 5, 2017, except that a more stringent limit for PM₁₀ of 0.008 pounds per million British thermal units (lb/MMBtu) at ST2 that became effective on December 5, 2018.

Table 3 – Emission Limits for Apache BART Alternative

Unit	Emission Limit (lb/MMBtu, averaged over 30 boiler operating days)		
	NO _x	PM ₁₀	SO ₂
ST2	0.085	0.01, then 0.008 (effective December 5, 2018)	0.00064

¹⁹ 80 FR 19220 (April 10, 2015).

ST3	0.23	0.03	0.15
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The Apache SIP Revision also included a revised NO_x emission limit for the combined-cycle operation of ST1 with GT1 from 0.056 lb/MMBtu to 0.10 lb/MMBtu and set a 1,205 lb/day NO_x limit, based on a 30-calendar-day average, for ST1 operating in stand-alone mode or in combined-cycle mode with GT1. Finally, the Apache SIP Revision incorporated monitoring, recordkeeping, and reporting requirements for the existing ST1 BART SIP limits of 0.00064 lb SO₂/MMBtu and 0.0075 lb PM₁₀/MMBtu into the SIP. Upon approval of the Apache SIP Revision, the EPA withdrew all Regional Haze FIP requirements that addressed BART for Apache.²⁰

b. Cholla Generating Station

Cholla Generating Station (“Cholla”) consists of four coal-fired electric generating units with a total plant-wide generating capacity of 1150 MW. Unit 1 is a 126 MW boiler that is not BART-eligible. Unit 2 (272 MW), Unit 3 (272 MW), and Unit 4 (410 MW) are tangentially-fired dry bottom boilers that are BART-eligible. On December 5, 2012, the EPA approved the State’s SO₂ and PM BART limits for Cholla and established FIP NO_x emission limits for all three units based on installation and operation of SCR.

On March 27, 2017, the EPA approved a SIP revision for Cholla (“Cholla SIP Revision”) that included a revised BART analysis and determination for NO_x and a revision to Cholla’s operating permit to implement both the revised BART determination for NO_x and ADEQ’s prior BART determinations for SO₂ and PM₁₀ at Cholla.²¹ Under the revised NO_x BART determination:

- Unit 2 was permanently shut down by April 1, 2016.

²⁰ Id.

²¹ 82 FR 15139 (March 27, 2017).

- Unit 3 and Unit 4 continue to operate with currently installed low-NO_x burners and separated over fire air. By April 30, 2025, the owners will permanently cease burning coal at both units with the option to convert to pipeline-quality natural gas by July 31, 2025, with an annual average capacity factor of 20 percent or less.

Upon approval of the Cholla SIP Revision, the EPA withdrew all Regional Haze FIP requirements applicable to Cholla.²² The current SIP-approved BART limits for Cholla are shown in Table 4.

Table 4 – Cholla BART Emission Limits

Unit	Dates	Emission Limit (lb/MMbtu, averaged over 30 boiler operating days)		
		NO _x	PM ₁₀	SO ₂
Unit 2	Unit shut down on April 1, 2016			
Unit 3	until April 30, 2025	0.22	0.015	0.15
	after April 30, 2025	0.08	0.01	0.0006
Unit 4	until April 30, 2025	0.22	0.015	0.15
	after April 30, 2025	0.08	0.01	0.0006

c. Coronado Generating Station

Coronado Generating Station (“Coronado”) consists of two BART-eligible 456 MW coal-fired steam boilers, known as Units 1 and 2. On December 5, 2012, the EPA approved the State’s SO₂ and PM BART limits for Coronado and established FIP NO_x emission limits for both units based on installation and operation of SCR.

On October 10, 2017, the EPA approved a SIP revision that included a better-than-BART alternative for Coronado (“Coronado SIP Revision”), consisting of an interim operating strategy (“Interim Strategy”), which is in effect from December 5, 2017, to December 31, 2025, and a final operating strategy (“Final Strategy”), which will take effect on January 1, 2026.²³ The

²² Id.

²³ 82 FR 46903.

requirements associated with the Interim and Final Strategies are shown in Table 5 and summarized briefly below.

The Interim Strategy includes three different operating options (designated IS2, IS3, and IS4), each of which requires a period of seasonal curtailment (i.e., temporary closure) for Unit 1. Each year, SRP must select and implement one of the three options, based on the NO_x emissions performance of Unit 1 and the SO₂ emissions performance of Units 1 and 2 in that year. In particular, by October 21 of each year, SRP must notify ADEQ and the EPA of its chosen option for that calendar year (and for January of the following year) and demonstrate that its NO_x and SO₂ emissions for that year (up to the date of the notification) have not already exceeded the limits associated with that option. SRP then must comply with those limits for the remainder of the year (and for January of the following year) and curtail operation of Unit 1 for the time period required under that option. In addition, under each option, the facility must comply with an annual plant-wide SO₂ emissions cap of 1,970 tons per year (tpy) effective in each year, beginning in 2018.

The Final Strategy in the Coronado SIP Revision requires installation of SCR on Unit 1 or the permanent cessation of operation of Unit 1 no later than December 31, 2025. SRP is required to notify ADEQ and the EPA of its selection by December 31, 2022. The Final Strategy includes two additional features: an SO₂ emission limit of 0.060 lb/MMBtu, calculated on a 30-boiler operating day (BOD) rolling average and applicable to Unit 2 (as well as Unit 1 if it continues operating), and an annual plant-wide SO₂ emissions cap of either 1,970 tpy if both units continue operating or 1,080 tpy if Unit 1 shuts down.

Table 5 – Summary of Coronado BART Alternative

Control Strategy		Unit 1 (lb/MMBtu with 30-BOD average)		Unit 2 (lb/MMBtu with 30-BOD average)		Annual Plant- Wide SO ₂ Cap (tpy)	Unit 1 Curtailment Period
		NO _x	SO ₂	NO _x	SO ₂		
Interim Strategy	IS2	0.320	0.060	0.080	0.060	1,970	October 21- January 31
	IS3	0.320	0.050	0.080	0.050	1,970	November 21- January 20
	IS4	0.310	0.060	0.080	0.060	1,970	November 21- January 20
Interim Strategy Timeline		Notification date: October 21 of each year Operates December 5, 2017 to December 31, 2025					
Final Strategy	SCR Installation	0.065	0.060	0.080	0.060	1,970	N/A
	Shutdown	N/A	N/A	0.080	0.060	1,080	N/A
Final Strategy Timeline		Notification date: December 31, 2022 Shutdown or install & operate SCR: December 31, 2025					

The Coronado SIP revision also included PM₁₀ limits of 0.030 lb/MMBtu for each unit, as well as compliance deadlines and monitoring, recordkeeping, and reporting requirements for NO_x, PM and SO₂. Upon approval of the Coronado SIP revision, the EPA withdrew all Regional Haze FIP requirements applicable to Coronado.²⁴

d. Miami Smelter

The Arizona Regional Haze SIP and Arizona Regional Haze FIP include BART requirements for Converters 2 through 5 and the electric furnace at the Miami Smelter. For SO₂ from the converters, the BART emission limit is a control efficiency of 99.7 percent on a 365-day rolling average. For SO₂ from the electric furnace, the BART emission limit is a work practice standard prohibiting active aeration. For NO_x, a 40 tpy limit applies to the converters and electric furnace. For PM₁₀, the FIP incorporates by reference provisions of the national emission standards for hazardous air pollutants for primary copper smelters. Compliance with

²⁴ Id.

the SO₂ emission limit for the converters was required by January 1, 2018, and compliance with all other provisions was required by September 2, 2016.

e. Hayden Smelter

The Arizona Regional Haze SIP and Arizona Regional Haze FIP include BART requirements for converters 1, 3, 4, and 5, and anode furnaces 1 and 2 at the Hayden Smelter. Pursuant to a consent decree with the United States, Asarco was required to cease operations at the existing converters by May 1, 2018.²⁵ Accordingly, the anode furnaces are the only subject-to-BART units still in operation at the Hayden copper smelter. As of September 4, 2017, these units were required to meet an annual NO_x emission limit of 40 tpy and only be charged with blister copper or higher purity copper in order to limit SO₂ emissions.

f. Sundt Unit 4

The Arizona Regional Haze FIP includes BART emissions limits and the option of a better-than-BART alternative based on a switch from coal to natural gas for TEP Sundt Unit 4. On March 14, 2016, TEP notified the EPA that it had selected the alternative option and would comply with the associated emission limits by the compliance date of December 31, 2017.²⁶ These limits are 0.25 lb/MMBtu for NO_x, 0.054 lb/MMBtu for SO₂, and 0.010 lb/MMBtu (or an alternative limit determined by testing) for PM₁₀.

g. Nelson Lime Plant

The Arizona Regional Haze FIP includes BART emissions limits for Kilns 1 and 2 at the Nelson Lime Plant. The limits for NO_x are 3.80 lb/ton of lime for Kiln 1 and 2.61 lb/ton of lime for Kiln 2 on a 12-month rolling average with a compliance date of September 4, 2017. The limits for SO₂ are 9.32 lb/ton of lime for Kiln 1 and 9.73 lb/ton of lime for Nelson Kiln 2 on a

²⁵ Consent Decree No. CV-15-02206-PHX-DLR (D. Ariz) (entered December 30, 2015), paragraph 8.

²⁶ Letter dated March 14, 2016, from Erik Bakken, TEP, to Kathleen Johnson, EPA Region IX.

12-month rolling average, and 10.1 tons/day for both kilns combined with a compliance date of March 3, 2016.

2. Reasonable Progress Sources

The Arizona Regional Haze FIP includes NO_x emission limits and related requirements for CPC Rillito Kiln 4 and PCC Clarkdale Kiln 4 under the reasonable progress requirements of the RHR. Both kilns are subject to 30-day rolling average NO_x limits achievable with installation and operation of SNCR, with a compliance date of December 31, 2018. The limit for Rillito Kiln 4 is 3.46 lb NO_x/ton of clinker, and the limit for Clarkdale Kiln 4 is 2.12 lb NO_x/ton of clinker.²⁷

3. Closure of Existing Facilities

In its Progress Report, ADEQ explained that Catalyst Paper, which was a subject-to-BART source, closed permanently in 2012. The total emissions from its boiler unit were more than 250 tons per year of NO_x and SO₂. ADEQ noted in the Arizona Regional Haze State Plan that this boiler had a visibility impact of 0.739 deciviews on the Sierra Ancha Wilderness area and 0.523 deciviews on the Superstition Wilderness area. The closure of this facility eliminated its emissions and corresponding visibility impacts.

4. Existing Federal and State Regulations

ADEQ's Progress Report identified several federal and State programs that contributed to emissions reductions in visibility-impairing pollutants.

The federal programs included in the Progress Report were: the Heavy-Duty Highway Rule, which reduced pollution from heavy-duty engines and diesel fuel; the Tier 2 and Tier 3

²⁷ The FIP provided an alternative limit of 810 tons NO_x/year for Clarkdale Kiln 4, but PCC elected to comply with the lb/ton limit. Letter dated May 25, 2018 from Brett Lindsay, Environmental and Energy Manager, PCC, to EPA Region IX Enforcement Division and Air Division.

Vehicle and Gasoline Sulfur Program, which reduced emissions from passenger and light-duty vehicles and gasoline; the Non-Road Engine Program, which reduced emissions from non-road engines; the Mercury and Air Toxics Rule, which reduced pollution from power plants; and requirements to implement the national ambient air quality standards.

The state regulations described in the Progress Report were: the Arizona State Vehicle Emissions Inspection Program, which reduces emissions from cars; and Arizona's New Source Review Program, which addresses emissions from stationary sources.

5. Smoke Management

In the Progress Report, ADEQ noted that it implements a certified Enhanced Smoke Management Program that works toward a reduction in smoke impacts due to prescribed/controlled burning of nonagricultural fuels with particular regard to heavy forest fuels. All State lands, parks, and forests, as well as any federally-managed lands in Arizona, are under the jurisdiction of ADEQ in matters relating to air pollution from prescribed burning. The EPA has approved the state and local rules that comprise the Enhanced Smoke Management Program into the Arizona SIP.²⁸

B. Summary of Emissions Reductions

The Arizona Progress Report also includes a summary of the emissions reductions achieved throughout the State through implementation of the control measures relied upon to achieve reasonable progress. ADEQ examined the emissions of SO₂, NO_x, primary organic aerosols (POA), elemental carbon (EC), fine soil, fine particulate matter, coarse particulate matter (PMC), ammonia (NH₃), and volatile organic compounds (VOCs) and determined its emissions reductions are adequate to achieve Arizona's RPGs. For the statewide emissions

²⁸ 71 FR 28270 (May 16, 2006) and 72 FR 25973 (May 8, 2007).

inventory, ADEQ used WRAP TSS data and other information from WRAP to analyze emissions for 2002 (the baseline year), 2008, and 2011 (the most current year for which data were available). ADEQ stated in its Progress Report that these years were selected because they provided the most comprehensive data. For BART sources, EGUs, and other facilities that were subject to reasonable progress controls, ADEQ provided annual emissions data from 2002-2013. The sources of that information were the EPA's CAMD,²⁹ the 2008 and 2011 National Emissions Inventories, and ADEQ's point source emissions database.

ADEQ provided statewide emissions trends for SO₂, NO_x, POA, EC, Fine Soil, PMC, NH₃, and VOCs. The emissions trends are summarized in Table 6.

Table 6 – Statewide Emissions Trends of Visibility-Impairing Pollutants (Tons/Year)

	SO ₂	NO _x	POA	EC	Fine Soil	PMC	NH ₃	VOC
2002	111,709	368,498	57,754	14,745	25,294	158,099	42,203	1,889,682
2008	86,314	293,114	23,972	10,789	48,288	240,570	42,457	894,010
2011	77,657	264,708	50,057	18,054	50,352	381,306	49,131	1,272,342
Percent (%) Change 2002 to 2011	-30%	-28%	-13%	22%	99%	141%	16%	-33%

Source: 2015 Arizona Regional Haze 5-Year Progress Report, Table 19, page 48.

VOC emissions decreased by approximately 33 percent from 2002 to 2011. However, changes to WRAP modeling techniques over time improved the accuracy of biogenic emissions, which makes this direct comparison of VOC emissions across years uncertain. These changes included different meteorological models, variability of land cover, and improved emissions factors based on better sources of data.³⁰ Table 7 summarizes VOC emissions by source.

Table 7 – VOC Emissions by Source (Tons/Year)

	2002	2008	2011
Point	5,464	3,490	3,414

²⁹ CAMD provides emissions and other data for certain large stationary sources through the Air Markets Program Data tool available at <https://ampd.epa.gov/ampd/>.

³⁰ WRAP Regional Haze Rule Reasonable Progress Report Support Document. Table 3.2-1. http://www.wrapair2.org/documents/SECTIONS%201.0%20-%203.0/WRAP_RHRPR_Sec_1-3_Background_Info.pdf.

Anthropogenic Fire	855	5,781	10,053
Natural Fire	36,377	1,330	222,314
Biogenic	1,576,698	686,255	880,219
Area	102,918	100,256	67,622
WRAP Area O&G	46	12	65
On-Road Mobile	110,424	54,589	49,387
Off-Road Mobile	56,901	42,297	39,268
Fugitive/Road Dust	0.00	0.00	0.00
WB Dust	0.00	0.00	0.00
Total	1,889,682	894,010	1,272,342

Source: 2015 Arizona Regional Haze 5-Year Progress Report, page 50.

As shown in Table 6, total emissions of SO₂ and NO_x decreased consistently from 2002 to 2011. The approximately 30 percent reduction in SO₂ from 2002 to 2011 was mainly attributed to controls on point source facilities. The approximately 29 percent reduction in NO_x was mainly attributed to point sources and on-road mobile sources.

Reported total PM emissions (categorized as PMC, fine soil, EC, and POA) increased consistently from 2002 to 2011. The total increase from 2002 to 2011 was approximately 92 percent. The largest contributor to this increase was PMC, which was primarily made up of windblown dust and fugitive/road dust. Not only did the amount of reported PMC increase at each inventory year, but the percentage of PMC within the total particulate matter emissions also increased over time. Some of this change may be due to improvements in WRAP methodologies for estimating PMC emissions. As we noted in our supplemental Phase 2 proposal on the Arizona Regional Haze SIP, emissions inventories for particulate matter may be uncertain, largely because emissions of fugitive/road dust and windblown dust are difficult to calculate accurately.³¹ Therefore, for purposes of Regional Haze, we generally consider IMPROVE monitoring data for these pollutants to be more informative than emissions inventories. As described below, the overall monitoring data for all Class I areas in Arizona have shown

³¹ 78 FR 29292, 29297 (May 20, 2013).

improvements in visibility for the 20 percent most and least impaired days between the baseline (2000-2004) and current (2009-2013) visibility periods. However, as shown in Table 8, species-specific monitoring data show that visibility impairment from coarse mass and fine soil increased in some Class I areas and decreased in other areas between the baseline and progress periods. Therefore, while the monitoring data generally show progress, as we noted in the supplemental Phase 2 proposal on the Arizona Regional Haze SIP, it will be necessary to more closely examine the potential visibility impacts of fugitive and road dust on Arizona's Class I areas in the second and future planning periods.³²

Table 8 – Visibility Impairment from Fine Soil and PMC on 20 Percent Worst Days (Mm⁻¹)

IMPROVE Monitor	Class I Area	Fine Soil			PMC		
		Baseline 2000-2004	Current 2009-2013	Difference ^a	Baseline 2000-2004	Current 2009-2013	Difference
BALD1	Mount Baldy Wilderness	1.1	1.3	0.2	2.8	3.5	0.7
CHIR1	Chiricahua National Monument, Chiricahua Wilderness & Galiuro Wilderness	2.7	1.9	-0.8	8.6	7.4	-1.2
GRCA2	Grand Canyon National Park	1.3	1.2	-0.1	3.5	3.2	-0.3
IKBA1	Mazatzal Wilderness & Pine Mountain Wilderness	2.6	2.3	-0.3	6.2	6.2	0.0
PEFO1	Petrified Forest National Park	2.0	2.1	0.1	7.3	6.4	-0.9
SAGU1	Saguaro National Monument – East Unit	3.4	2.5	-0.9	7.1	8.0	0.9
SAWE1	Saguaro National Monument – West Unit	5.8	3.6	-2.2	12.8	11.2	-1.6

³² Id. at 29298.

SIAN1	Sierra Ancha Wilderness	2.2	1.8	-0.4	5.9	4.4	-1.5
SYCA2	Sycamore Canyon Wilderness	6.8	5.6	-1.2	9.4	9.8	0.4

^a Calculated as the difference between the baseline period (2000-04) and current conditions (2009-13). A negative difference indicates a reduction in haze, i.e., improved visibility.

Source: 2015 Arizona Regional Haze 5-Year Progress Report, pages 26-44.

Under the Arizona Regional Haze SIP and FIP, stationary sources were required to reduce SO₂, NO_x, and PM₁₀. Arizona's Progress Report included annual emissions data from 2002-2013 for BART sources that are EGUs, BART sources that are not EGUs, and non-BART sources that were subject to reasonable progress controls for visibility-impairing emissions. Although there was variation in emissions during the years between 2002 and 2013, the emissions for all sources in 2013 were lower than emissions in 2002. For BART EGU sources, ADEQ noted that although emissions had decreased from 2002-2013, heat input had increased, indicating that the emissions reductions were the result of pollution controls, not reduced operations. ADEQ also noted that for all these facilities, further reductions were expected to occur by 2018, either due to BART controls or to reasonable progress controls.³³ Table 9 summarizes stationary source emissions.

Table 9 – Stationary Source Emissions (Tons/Year)

Year	BART Sources - EGUs			BART Sources - Non-EGUs			Non-BART, Non-EGU		
	SO ₂	NO _x	PM ₁₀	SO ₂	NO _x	PM ₁₀	SO ₂	NO _x	PM ₁₀
2002	46,798	32,714	1,215 ^a	26,330	3,080	996	292	8,895	1,600
2013	11,025	25,337	1,322	23,364	1,826	607	10	2,649	301

^a PM₁₀ data were not available for Sundt (Irvington) Generating Station.

Source: 2015 Arizona Regional Haze 5-Year Progress Report, Tables 13-15.

Arizona's Progress Report also described PM_{2.5} emissions that were averted from 2009-2014 through its Enhanced Smoke Management Program.

C. Summary of Visibility Conditions

³³ See section III.A above for a summary of these controls and the associated compliance dates.

ADEQ's Progress Report provided visibility data for each of the State's Class I areas during the baseline period (2000-2004), the current period for the progress report (2009-2013), and for the rolling 5-year periods between the baseline and current periods. The Report compared those data with the 2018 RPGs for each area. The Report also compared the visibility progress to the Uniform Rate of Progress (URP)³⁴ for the worst days. However, the RHR does not require a progress report to compare current or projected visibility conditions to the URP.³⁵ Consequently, the RPGs are the relevant comparison points for evaluating whether the progress report meets the RHR requirements for reporting visibility progress during this first planning period. These RPGs are listed in Table 10 along with the baseline and current (as of the submission of the Progress Report) visibility conditions.

Table 10 – Arizona Class I Area Visibility Conditions on the 20 Percent Most and Least Impaired Days^a

Improve Monitor	Class I Area	Best Days (deciviews)			Worst Days (deciviews)		
		Baseline 2000-2004	2018 RPG	Current 2009-2013	Baseline 2000-2004	2018 RPG	Current 2009-2013
BALD1	Mount Baldy Wilderness	3.0	2.8	2.7	11.8 ^b	11.4	10.5
CHIR1	Chiricahua National Monument, Chiricahua Wilderness & Caluero Wilderness	4.9	4.8	4.1	13.4	13.2	12.1
GRCA2	Grand Canyon National Park	2.2	2.0	1.8	11.7	11.0	10.9
IKBA1	Mazatzal Wilderness & Pine Mountain Wilderness	5.4	5.1	4.4	13.3	12.6	12.0
PEFO1	Petrified Forest	5.0	4.6	4.1	13.2	12.6	11.9

³⁴ The URP is a straight line from the baseline visibility condition (5-year annual average from 2000-2004) to the estimated natural background condition in 2064, as measured on the 20 percent best and worst days. The URP values for 2018 are the number of deciviews where the lines drawn to 2064 for best and worst days intersect 2018.

³⁵ 79 FR 52419, 52426 (September 3, 2014).

	National Park						
SAGU1	Saguaro National Monument – East Unit	6.9	6.9	6.1	14.8	14.7	12.6
SAWE1	Saguaro National Monument – West Unit	8.6	8.2	7.5	16.2	15.9	14.2
SIAN1	Sierra Ancha Wilderness	6.2	5.78	4.9	13.7	13.05	12.2
SYCA2	Sycamore Canyon Wilderness	5.6	5.39	5.1	15.3	14.92	14.6
TONT1	Superstition Wilderness	6.5	6.09	5.2	14.2	13.72	12.7

Source: 2015 Arizona Regional Haze 5-Year Progress Report, Table 17.

^a Due to rounding, some values in this table differ slightly from those in the Arizona Regional Haze SIP and Arizona Regional Haze FIP.

^b The baseline worst days value for BALD1 was incorrectly listed as 11.95 deciviews in Tables 9 and 10 in the EPA’s Phase 3 FIP final rule. 79 FR 52469-52470 (September 3, 2014). The correct value of 11.85 deciviews is found in Arizona’s 2011 Submittal, Table 6.3.

Based on the information in Chapter 4 of the Progress Report, Arizona demonstrated that all Class I areas experienced improvements in visibility (i.e., reductions in deciviews) for the 20-percent most and least impaired days between the baseline (2000-2004) and current (2009-2013) visibility periods, as summarized in Table 10 above and shown in Table 17 of the Progress Report. The same table also shows that the five-year average worst days and best days during the current (2009-2013) period were below (i.e., better than) the 2018 RPGs. Thus, all of the State’s Class I areas are on track to meet or surpass their 2018 RPGs. As part of a comprehensive SIP revision due by July 31, 2021, the State will be required to adopt 2028 RPGs, which will reflect new control measures adopted to meet the requirements of the Regional Haze Rule and other CAA requirements.³⁶

³⁶ 40 CFR 51.308(f)(3)(i).

In addition, the Progress Report explains that the significant reductions in NO_x and SO₂ emissions discussed in the previous section have also mitigated Arizona's contribution to visibility impairment in Class I areas in nearby states.³⁷

The Progress Report also contains a review of Arizona's visibility monitoring strategy. In the Progress Report, ADEQ notes that the Grand Canyon – Indian Garden IMPROVE monitoring station shut down in 2013. The Report states that Arizona uses the GRCA2 monitoring station for Grand Canyon National Park, so the closure of the Indian Gardens monitor will not affect the reliability of the IMPROVE network in Arizona.

D. Determination of Adequacy

Within the Progress Report, the State of Arizona provided a negative declaration stating that further revision of the existing implementation plan is not needed in accordance with 40 CFR 51.308(h)(1). The basis for the State's negative declaration is the information in the Progress Report and the determination that Arizona is currently on track to achieve all 2018 RPGs for the State's Class I areas. Given the large reductions in SO₂ and NO_x emissions and the significant improvements in visibility at the State's Class I areas achieved during the planning period, the EPA proposes to approve Arizona's determination that the existing Arizona SIP requires no substantive revisions at this time to achieve the established 2018 RPGs for Class I areas. As mentioned above, the State is required to submit a comprehensive SIP revision for the next planning period, including RPGs for 2028, by July 31, 2021.³⁸

E. Consultation with Federal Land Managers (FLMs)

The State of Arizona invited the FLMs to comment on its draft progress report on August 24, 2015. Arizona received comments from one FLM, the National Park Service, which

³⁷ 2015 Arizona Regional Haze 5-Year Progress Report, Table 17.

³⁸ 40 CFR 51.308(f)(3)(i).

indicated that the Progress Report met the applicable requirements and requested additional information and other minor changes. ADEQ responded to the FLM comments and revised the Progress Report accordingly, as documented in Appendix A of the Progress Report. The EPA proposes to find that Arizona has addressed the requirements for FLM consultation in 40 CFR 51.308(i).

IV. The EPA's Proposed Action

The EPA is proposing to approve the Arizona Regional Haze Progress Report submitted to the EPA on November 12, 2015, as meeting the applicable requirements of the CAA and RHR, as set forth in 40 CFR 51.308(g). The EPA proposes to approve Arizona's determination that the existing regional haze implementation plan is adequate to meet the State's 2018 visibility goals and requires no substantive revision at this time. We also propose to find that Arizona fulfilled the requirements in 40 CFR 51.308(i) regarding state coordination with FLMs.

V. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable federal regulations.³⁹ Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this proposed action merely approves state law as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

³⁹ 42 U.S.C. 7410(k); 40 CFR 52.02(a).

- Is not a “significant regulatory action” subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because actions such as SIP approvals are exempted under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because this rulemaking does not involve technical standards; and
- Does not provide the EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this proposed action does not apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Visibility, and Volatile organic compounds.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: March 14, 2019.

Deborah Jordan,
Acting Regional Administrator,
Region IX.

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